



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20251
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/237,860	01/27/1999	TOYOHIKO KUMAKURA	50032-150	6969

20277 7590 08/28/2002
MCDERMOTT WILL & EMERY
600 13TH STREET, N.W.
WASHINGTON, DC 20005-3096

EXAMINER

CUNEO, KAMAND

ART UNIT

PAPER NUMBER

2827

DATE MAILED: 08/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	9/237820	M Cuccia
Examiner	Group Art Unit	
Cuccia	2827	

--The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address--

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication .
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

Responsive to communication(s) filed on RCE in amendment of 6/15/02 & 6/6/02.
 This action is **FINAL**.

Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

Claim(s) 1, 3-4 is/are pending in the application.
 Of the above claim(s) 3, 4 is/are withdrawn from consideration.

Claim(s) _____ is/are allowed.

Claim(s) 1, 5-14 is/are rejected.

Claim(s) _____ is/are objected to.

Claim(s) _____ are subject to restriction or election requirement.

Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The proposed drawing correction, filed on 6/15/02 is approved disapproved.

The drawing(s) filed on _____ is/are objected to by the Examiner.

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All Some* None of the CERTIFIED copies of the priority documents have been received.

received in Application No. (Series Code/Serial Number) _____.

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

Attachment(s)

Information Disclosure Statement(s), PTO-1449, Paper No(s). _____ Interview Summary, PTO-413

Notice of Reference(s) Cited, PTO-892 Notice of Informal Patent Application, PTO-152

Notice of Draftsperson's Patent Drawing Review, PTO-948 Other _____

Office Action Summary

DETAILED ACTION

Specification

1. The substitute specification has been approved and entered.

Treatment of Claims Based on Language and Format

2. 35 USC 112, second paragraph, states:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1 and 5-14 are rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The functional limitations of reducing self inductance or flowing currents or shielding of the claims are confusing, because it is unclear whether they follow from the already recited structure or whether they imply structural limitations not explicitly recited in the claim. That is, examiner is unclear whether applicant intends to only recite intended use, or whether applicant intends to somehow define the structure of the device through these functional recitations. Examiner assumes the former. If the latter is true, examiner is uncertain what structure applicant intends to claim. As such, the scope of the claim becomes indefinite. If applicant is only reciting intended use, upon clarification of the record, this rejection will be withdrawn.

Claim 1, the last two lines are indefinite, because it is unclear whether placement of the film within 50 micrometers of the wiring section and the film having the claimed resistance

reduces the cross talk or whether some other element is required to perform this function. That is, it is unclear whether this function is inherent to the already recited structure or whether it implies structural limitations not explicitly recited in the claim. In other words, examiner is unclear if applicant intends to somehow define the structure of the device through these functional recitations. Therefore, it is unclear what are the elements of the claim. As such, the scope of the claim is indefinite.

Claim 5, line 7 and the last three lines, "flowing eddy current" is indefinite. It is unclear whether the insulating layer "flows" eddy current by virtue of its proximity to the ground layer, or some other feature, not explicitly recited in the claim, is required to perform this function.

Claim 7, line 2, states that the insulating material contains the adhesive. Nevertheless, what is defined as the insulating layer does not include the adhesive (see for example claim 8). Therefore, this description is confusing. Examiner suggests stating that the insulating layer bears an adhesive layer.

Claim 10 has the same problems as claims 1 and 5 noted above.

Treatment of Claims Based on Prior Art

4. 35 USC 103(a) states:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Obviousness under 35 USC 103(a) is determined against a background established by the factual inquires set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), which are summarized in items 1-4 below.

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 USC 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 USC 103© and potential 35 USC 102(f) or (g) prior art under 35 U.S.C. 103(a).

6. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson (US 4441088).

Claim 1: Figure 1 shows a board with a plurality of leads or wiring section (12) on insulating material (14) and conductor or shielding film (16) on the leads. The distance between the wiring section and the film is 3.3 mils which is 83.8 micrometers (microns), column 4, line 8. See also column 3 at lines 50-54 and column 4 at lines 55-70 which explain that the distance and other size parameters are chosen to minimize cross talk.

Anderson discloses the claimed invention except for the distance of the wiring and the film being less than 50 microns and except for the resistivity of the film.

On the distance, Anderson uses a distance of 83 microns. Nevertheless, he states at

column 4, lines 55-60, "The designer selects the dielectric that he wishes to use and determines the thickness H for the size and density of the signal conductors that are to be used. Once the impedance, attenuation and various values of mutual and self capacitance and inductance have been calculated to provide suitable transmission properties the dielectric overlayer thickness t can be calculated or experimentally determined." This teaching is stating the adjusting the distance of the wiring with the film is a design parameter which will be selected to maximize electrical properties. Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to make the distance 50 microns or less to optimize the electrical characteristics based on the type of insulator and size of conductors used, as taught by Anderson.

On the film, Anderson does not disclose what material is used for the film (or any of the conductors). Copper, silver, gold and aluminum are well known metals which are used to make conductive film and ground planes. The resistivity of these metals is about 30 microohm-cm or less. The present specification also states at the bottom of page 12 that these metals are used for the formation of the claimed film.

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to use copper (or silver or aluminum or gold) to provide the metal for the film of Anderson, because use of copper to make films is well known in the art. Examiner takes official notice of the commonness of copper for the formation of conductive films. Use of copper renders the claimed resistivity of 30 microohm-cm or less.

7. Claims 1, 5-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hasircoglu (US 4902236) and Anderson (US 4441088).

Figure 1 shows a board (10) with a plurality of leads or wiring section (18) on insulating substrate (14) and ground layer (16). A conductor and insulator (forming a composite, claim 6) are disposed on the substrate and leads as the board (10) is folded as shown. The material used for the leads and ground layer is copper with a resistivity of about 30 microohm-cm or less.

Hasircoglu discloses the claimed invention except for the distance between the leads and the conductor, that is, the thickness of the insulating polyimide layer. This thickness (or distance) is not disclosed. Nevertheless, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to make the thickness of the insulating layers separating the conductor and the leads 50 microns or less to affect the desired flexibility in the circuit and to adjust the electrical characteristics as desired, because adjusting the thickness of an insulator to obtain the desired flexibility and to adjust impedance is old and well known. Further, it has been held that where the general conditions of a claim are disclosed in the prior art, finding the optimum or workable range involves only routine skill. *In re Aller*, 105 USPQ 233, 235.

Response to Arguments

8. Applicant's arguments have been carefully reviewed. Most of the arguments are moot in view of new grounds of rejection. Those still applicable are addressed below.

The arguments with respect to the section 112 rejections are not persuasive. Applicant argues extensively what the standard for clarity of claim language is, yet never actually sets forth whether the functional language of the claim follows from the recited structure or whether it requires the inclusion of other elements. This renders the scope of the claim indefinite and the

claim unclear. The rejection is proper and is maintained.

The rejections for "a volume resistivity" and "a distance" are withdrawn. Examiner agrees that it is clear from the specification that "the conventional volume resistivity" and the geometric distance are in discussion. Therefore, these errors do not render the scope and meaning of the claim unclear.

The claims are indefinite because they are unclear. They are unclear because the examiner cannot determine what are all of the elements of the claim, explained in the rejections above. This means that the claims do not particularly point out and distinctly set forth the invention. So, they are rejected. The comments about alternative modes of expression are unrelated to the problems set forth in this office action.

With respect to claim 7, the specification identifies the insulating film and the adhesive layer as separate parts. For this reason and because the adhesive is not located within the film, it is incorrect to state that the adhesive layer is contained in the film. Applicant's arguments about reasonable degree of clarity are not persuasive, because the claim is inconsistent with the specification as noted.

The arguments regarding Anderson are moot in view of the claim amendment which has changed the distance. Accordingly, the rejection has been modified. The arguments that the distance has to be sufficiently small or the claimed invention would not reduce flux has two problems. First, the 112 rejections above make it very clear that the metes and bounds of the claims are unclear. Therefore, it is unclear what structural features are required to affect these functions and art is applied accordingly. Second, the 83 micron distance of Anderson must also reduce flux as claimed, because before this amendment the claim recited 150 microns, and

according to the specification, this value reduces flux as well. If a distance larger than 50 microns does not work, then applicant's originally claimed invention and part of the disclosure are inoperable. In any case, the specific amendment to the distance has been addressed in the claims.

Closing

9. Any inquiries related to the examination of this application should be directed to Ex. K. Cuneo at (703) 308-1233 or her supervisor Ex. J Gaffin at (703) 308-3301. Inquiries of a general nature should be directed to the receptionist of Group 2800 at (703) 308-0956. The fax numbers for Group 2800 are (703) 305-7722 and 7724.



K. Cuneo
Patent Examiner Group 2841
August 26, 2002